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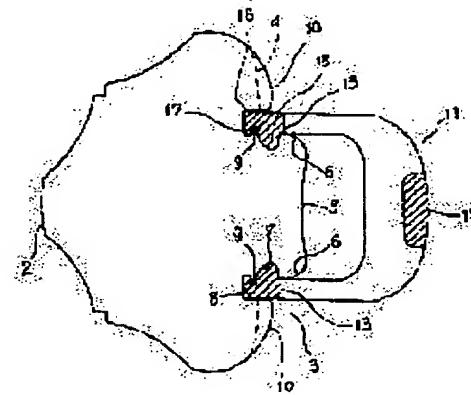
(21)Application number : 04-361700 (71)Applicant : YOSHINO KOGYOSHO CO LTD
 (22)Date of filing : 28.12.1992 (72)Inventor : ISHII HIROICHI
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(54) BOTTLE BODY HAVING GRIP MADE OF SYNTHETIC RESIN AND MOLDING METHOD THEREOF

(57)Abstract:

PURPOSE: To prevent generation of flexible deformation in the incorporation part of a bottle main body side and to stabilize and strengthen incorporation of a grip for the bottle main body.

CONSTITUTION: A grip-bearing bottle body made of synthetic resin is constituted of longitudinal projection parts 5 provided with the longitudinal groovelike engagement grooves 7 at both sides, a bottle main body having engagement hole parts 8 provided with engagement edge parts 9 in the opening parts and a grip 11. In the grip 11, a pair of incorporation beam pieces 13 engage the engagement projection pieces 15 with the engagement grooves 7 by holding the longitudinal projection parts 5 from both sides. Engagement projection pieces 16 are projected to the tip faces of the incorporation beam pieces 13 and so engaged that the engagement edge parts 9 are engaged with the engagement grooves of the base end parts and are not pulled out to the engagement hole parts 8. Strengthened and stabilized incorporation is achieved and maintained by engagement of the engagement hole parts 8 and the engagement projection pieces 15 and engagement of the engagement hole parts 8 and the engagement projection pieces 16.



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CLAIMS

[Claim(s)]

[Claim 1] Drum section (2) Crevice ***** (ed) by the back (3) Crevice base (4) Vertical projected part (5) It projects and ** and is this vertical projected part (5). It is a longitudinal-stria-like swelling piece (6) to a both-sides side. It protrudes. This swelling piece (6) Said crevice base (4) It is an engagement slot (7) in between. It forms. Said vertical projected part (5) Said crevice base of close attendants (4) In a part, it is a fitting edge (9) to opening. Fitting hole of the shape of a MEKURA hole which prepared and made opening area small (8) The formed bottle body by which biaxial drawing blow molding was carried out (1), Said crevice base (4) The couple which has the contacting apical surface (14) and has been arranged at parallel grapples, and a handle plate (12) is ***** (ed) between the vertical edges of the piece of a beam (13). It is said engagement slot (7) to the opposed face of said piece of a beam with both groups (13). The engaged engagement protruding piece (15) is protruded. said apical surface (14) -- said fitting hole (8) the handle (11) which protruded the fitting protruding piece (15) which has a head splenium (17) at the head which fits in -- since -- bottle made of synthetic resin with a handle which changes.

[Claim 2] Crevice base (4) Bottle made of synthetic resin with a handle according to claim 1 which protruded the support projected part (10) which contacts the lateral surface of the piece of a beam with both groups (13) on a knob (11) which grappled.

[Claim 3] The bottle made of synthetic resin with a handle according to claim 1 or 2 which considered the head splenium (17) as the configuration which forms a fitting slot (18) between an apical surface (14) and an engagement protruding piece (15).

[Claim 4] Claim 1 which formed the notch (19) which enlarges the flute width of the fitting slot (18) part formed between this engagement protruding piece (15) and a head splenium (17) in the engagement protruding piece (15) part which counters a head splenium (17), or the bottle made of synthetic resin with a handle given in 2 or 3.

[Claim 5] The bottle made of synthetic resin with a handle according to claim 1, 2, 3, or 4 which grappled and made the whole abbreviation except the both ends of the apical surface (14) of the piece of a beam (13) the shape of a straight-line flat side.

[Claim 6] Claim 1 which made the handle (11) field symmetry structure at the upper and lower sides and right and left, 2 or 3, or the bottle made of synthetic resin with a handle given in 4 or 5.

[Claim 7] Drum section (2) Crevice ***** (ed) by the back (3) Crevice base (4) Vertical projected part (5) It projects and ** and is this vertical projected part (5). It is a longitudinal-stria-like swelling piece (6) to a both-sides side. It protrudes. This swelling piece (6) Said crevice base (4) It is an engagement slot (7) in between. It forms. said vertical projected part (5) Said crevice base (4) of close attendants a part -- opening -- fitting edge (9) Fitting hole (8) of the shape of a MEKURA hole which prepared and made opening area small Formed bottle body (1) Said crevice base (4) The couple which has the contacting apical surface (14) and has been arranged at parallel grapples, and a handle plate (12) is ***** (ed) between the vertical edges of the piece of a beam (13). It is said engagement slot (7) to the opposed face of said piece of a beam with both groups (13). The engaged engagement protruding piece (15) is protruded. It is said fitting hole (8) to said apical surface (14). It is the shaping approach of the bottle with a handle which attached the handle (11) which protruded the fitting protruding piece (15) which has a head splenium (17) at the head which fits in to immobilization. Said piece of a beam with a group (13), The fitting protruding piece (16) which has said apical surface (14), and said engagement protruding piece (15) and said head splenium (17) is made into insertion material. Said bottle body (1) Biaxial drawing blow molding is carried out and it is said swelling piece (6). And fitting edge (9) Fitting hole which it has (8) The shaping approach of the bottle made of synthetic resin with a handle to fabricate.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the bottle made of synthetic resin with a handle which attached firmly the large-sized bottle made of synthetic resin with a handle by which biaxial drawing blow molding was carried out, especially the handle fabricated by another object and a bottle body, and its shaping approach.

[0002]

[Description of the Prior Art] The bottle shown in JP,63-147429,U is one of typical things of the large-sized bottle made of synthetic resin with a handle constituted by attaching the bottle body and handle which were fabricated by another object.

[0003] The bottle of this conventional technique forms in the back of the drum section of a bottle body the crevice which makes an arc up and down. Arrange a fitting projected part lengthwise in this center of a crevice at an arc, and blockade ends in the right-and-left both-sides side of this fitting projected part, and a long slot is arranged lengthwise to an arc. By constituting the frame as a handle which constructed the handle between the vertical edges of the front frame board section which makes an arc, attaching an engagement protruding line to the right-and-left both sides of the front frame board section of this frame, and pushing a frame compulsorily from crevice back Compulsory riding **** of the engagement protruding line to a long slot formation wall is attained, and to the bottle body, the frame as a handle is attached to balking impossible, and it is constituted.

[0004]

[Problem(s) to be Solved by the Invention] Although the above-mentioned conventional technique can attain with [with a firm handle / to a bottle body] a group, in order that assembly of the handle to a bottle body might take the powerful activity force to it, it needed the facility of dedication for assembly of the handle to a bottle body, and it had the problem which says that a manufacture unit price becomes high for this reason.

[0005] Moreover, when that wall thickness was thin, and the powerful activity force acted in order to attach a handle to a bottle body for this reason since it was a biaxial drawing blow molding article, the bottle body had a possibility that unjust deformation of buckling distortion etc. might occur in a bottle body according to this applied force, and had the problem said [that a defective may be produced at the time of anchoring on a knob, and].

[0006] And since it was a biaxial drawing blow molding article, that wall thickness of the bottle body was thin, for this reason, it was easy to generate the elastic bending deformation by the load into a part with an engagement group with a handle, the force with an engagement group of a bottle body and a handle weakened into it according to this bending deformation, and the problem referred to as separating with [to a bottle body on a knob] a group was in it.

[0007] Furthermore, the handle to a bottle body grappled, maintenance of a condition was attained by only fitting of the engagement protruding line to a long slot, and there was a problem which an engagement protruding line calls [that handling of the bottle of the handle to a bottle body which it is easy to be generated with backlash to grapple, and has a handle for this reason may become unstable since a long slot formation wall is overcome compulsorily and attained, and] fitting of the engagement protruding line to this long slot.

[0008] Furthermore, a bottle body and a handle are fabricated separately, and to a bottle body being a biaxial drawing blow molding article, since a handle is an injection-molded product A big difference arises in the shaping dimensional accuracy of a mutual engagement part, and for this reason, with [of a

bottle body and a handle] an engagement group, while it is difficult for there to be nothing with backlash Since projection extent of the engagement part by the side of the bottle body which is a biaxial drawing blow molding article could not be made sharp, there was a problem which says that it is not necessarily stabilized with [to a bottle body / of a handle] an engagement group, and it cannot necessarily attain powerfully.

[0009] then, bending deformation of the part with an engagement group by the side of the bottle body to the handle at the time of being invented that this invention should cancel the trouble in the above-mentioned conventional technique, and a load acting -- while abolishing generating of a variation rate, it makes to strengthen the force with an engagement group on a knob over a bottle body into a technical technical problem, it has it, and it aims at being stabilized and considering with [to a bottle body / of a handle] a group as a firm thing.

[0010]

[Means for Solving the Problem] The means of this invention which solves the above-mentioned technical technical problem projects and ** a vertical projected part on the crevice base of the crevice ***** (ed) by the drum section back, and a longitudinal-stria-like swelling piece is protruded on the both-sides side of this vertical projected part. It has the bottle body which formed the engagement slot between the swelling piece and the crevice base, and formed in vertical projected part close attendants' crevice base part the fitting hole of the shape of a MEKURA hole which established the fitting edge in opening and made opening area small and by which biaxial drawing blow molding was carried out, The couple which has the apical surface which contacts the crevice base of a bottle body, and has been arranged at parallel grapples, and a handle plate is ***** (ed) between the vertical edges of the piece of a beam. It is in having the handle (11) which protruded on the opposed face of the piece of a beam with both groups the engagement protruding piece which engages with the engagement slot on the bottle body, and protruded the fitting protruding piece which has a head splenium at the head which fits into an apical surface at the fitting hole of a bottle body.

[0011] It is effective to protrude the support projected part which contacts the lateral surface of the piece of a beam with both groups on a knob which clinched the crevice base of a bottle body.

[0012] It is good to consider the head splenium in a fitting protruding piece on a knob as the configuration which forms a fitting slot between an apical surface on a knob and an engagement protruding piece, and it good for the engagement protruding piece part which counters this head splenium to form the notch which enlarges the flute width for the fitting slot formed between this engagement protruding piece and a head splenium.

[0013] It is effective for a handle to grapple and to make the whole abbreviation except the both ends of the apical surface of the piece of a beam into the shape of a straight-line flat side, and it is advantageous to make a handle into field symmetry structure at the upper and lower sides and right and left.

[0014] The means of this invention approach which solves the above-mentioned technical technical problem Project and ** a vertical projected part on the crevice base of the crevice ***** (ed) by the drum section back, and a longitudinal-stria-like swelling piece is protruded on the both-sides side of this vertical projected part. An engagement slot is formed between a swelling piece and a crevice base. Into vertical projected part close attendants' crevice base part To the bottle body in which the fitting hole of the shape of a MEKURA hole which established the fitting edge in opening and made opening area small was formed The couple which has the apical surface which contacts the crevice base of a bottle body, and has been arranged at parallel grapples, and a handle plate is ***** (ed) between the vertical edges of the piece of a beam. It is the shaping approach of the bottle with a handle which attached to immobilization the handle which protruded on the opposed face of the piece of a beam with both groups the engagement protruding piece which engages with the engagement slot on the bottle body, and protruded the fitting protruding piece which has a head splenium at the head which fits into an apical surface at the fitting hole of a bottle body, A handle grapples. The piece of a beam, and this engagement protruding piece that grappled, grappled with the apical surface of the piece of a beam, and protruded on the piece of a beam, And it is in carrying out biaxial drawing blow molding of the bottle body by making into insertion material the fitting protruding piece which protrudes on an apical surface and has a head splenium, and fabricating the fitting hole which has the swelling piece and fitting edge of a bottle body.

[0015]

[Function] the handle to a bottle body -- grappling -- while making it engage with an engagement slot in the condition that the couple on a knob grappled the vertical projected part prepared in the crevice base of the crevice of a bottle body, and the piece of a beam made the swelling piece of a bottle body stop the engagement protruding piece and holding from both sides, achievement maintenance is carried out by

carrying out fitting of the fitting protruding piece on a knob to the fitting hole of a bottle body.

[0016] this handle cannot be broken away [of the handle to a bottle body] in the condition of having clinched the bottle body -- grappling -- The engagement to the engagement slot on the bottle body of an engagement protruding piece on a knob, i.e., the stop to the swelling piece of a bottle body, While fitting to the fitting hole of a bottle body of a fitting protruding piece on a knob attains and fitting to the fitting hole of a fitting protruding piece maintains the engagement to the engagement slot of an engagement protruding piece, it is in the condition to which the engagement protruding piece engaged with the engagement slot, and prevents a handle shifting and displacing to a bottle body.

[0017] namely, on the bending deformation by the side of the bottle body which makes it weaken with [to a bottle body / of a handle] an engagement group when the fitting protruding piece by the side of a handle fits into the fitting hole by the side of a bottle body, and a concrete target Generating of bending deformation in the direction which narrows the breadth of a vertical projected part at the base of a crevice in which the vertical projected part was prepared according to self-configuration maintenance capacity on a knob On bending deformation of the piece of a beam with both groups on a knob which it is made [piece] hard to carry out, and you maintain [piece] stably engagement into an engagement protruding piece and an engagement slot, and makes it weaken with [to a bottle body / of a handle] an engagement group similarly, and a concrete target By preventing generating of bending deformation in the direction where the piece of a beam with both groups extends the mutual spacing, engagement into an engagement protruding piece and an engagement slot is maintained stably, it shifts along the direction of a slot of the handle to the bottle body in the condition that the engagement protruding piece engaged with the engagement slot further, and generating of a variation rate is prevented powerfully.

[0018] Moreover, since the fitting protruding piece of the handle which fits into the fitting hole of a bottle body has the head splenium at that head of projection, in the condition of having fitted into the fitting hole, it will make the fitting slot formed between a head splenium, an apical surface, and an engagement protruding piece carry out fitting of the fitting edge of a fitting hole, and, for this reason, will fit into it to a fitting hole at ejection impossible. Since it is stably maintained by the engagement covering the fixed die-length range of the engagement protruding piece to an engagement slot, the drum section part around a fitting hole carries out unjust deformation with [to the fitting hole of this fitting protruding piece / in which ejection is impossible] a fitting group, and a fitting protruding piece escapes from a fitting hole, and does not come out of it.

[0019] a handle -- grappling -- the piece of a beam, an apical surface, and an engagement protruding piece -- and by carrying out biaxial drawing blow molding of the bottle body by making into insertion material the fitting protruding piece which has a head splenium, the swelling piece with the handle of a bottle body which it grapples and is a part, an engagement slot, a fitting hole, and a fitting edge will clinch the piece of a beam with both groups on a knob, an apical surface, an engagement protruding piece, the fitting protruding piece that has a head splenium at a head, and a fitting slot without an abbreviation clearance, and will be fabricated.

[0020] this bottle body grapples and the handle of a part is received -- grappling -- since a bottle body grapples and it is attained by drawing shaping of a part, although a bottle body grapples and local drawing deformation arises into a part, impossible ** elastic deformation does not arise and the bottle body which is a biaxial drawing blow molding article is not made to produce mechanical unjust deformation of buckling distortion etc. at the time of the assembly to a bottle body on a knob for this reason

[0021] Moreover, the thing [grappling and setting projection extent of a part as extent powerful enough which grapples and can demonstrate the force] is possible, without the handle after shaping grappling and taking into consideration the mold release from biaxial drawing blow molding metal mold equipment, since a bottle body grapples and it is attained with [to a handle] a group by the drawing deformation accompanying the biaxial drawing blow molding of a bottle body in a part.

[0022]

[Example] Hereafter, the example of this invention is explained, referring to a drawing. The bottle body 1 which is a large-sized (2.5-4.0l.) bottle made of synthetic resin by which biaxial drawing blow molding was carried out The comparatively broad vertical protruding line-like projected part 5 along the vertical direction in the center at the base 4 of a crevice in the height which carried out abbreviation regularity as a flat side which carried out cave-in formation of the crevice 3 at the back of the Johan part of that drum section 2, and stood a part for the center section except the vertical both ends of this crevice 3 straight Over all the height range of a crevice 3, it protrudes in the shape of swelling, and is constituted.

[0023] In both-sides side projection one end for a center section which met in the height direction of the vertical projected part 5 The vertical protruding line-like swelling piece 6 protrudes. By the protrusion of

this swelling piece 6 into center-section close attendants' crevice base 4 part which formed the engagement slot 7 between the swelling piece 6 and the crevice base 4, and met in the height direction of the swelling piece 6. The fitting hole 8 of the shape of a MEKURA hole which established the fitting edge 9 in the opening edge, and made opening aperture small is formed. Furthermore, the support projected part 10 which contacts the lateral surface of the piece 13 of a beam with both groups of a handle 11 which clinched the close attendants outside the fitting hole 8 at the base 4 of a crevice is protruded, and it supports with the engagement slot 7 containing the swelling piece 6, and the fitting hole 8 which has the fitting edge 9. By the projected part 10 It grapples to the handle 11 of a bottle body 1, and the part is constituted.

[0024] The support projected part 10 is what should just contact the lateral surface of the piece 13 of a beam with both groups of a handle 11 which clinched the bottle body 1. The structure In spacing, even what carried out swelling projection (refer to drawing 1) to the shape of a vertical protruding line continuously simply may be what (refer to the left half of drawing 2) ended and was able to be perpendicularly located in a line, and contacts [protruding pieces / two or more] the lateral surface of the piece 13 of a beam with both groups of a handle 11 which clinched the bottle body 1. This piece 13 of a beam with both groups functions as preventing deforming in the direction which extends mutual spacing (the force with [this] the engagement group of the handle [as opposed to / grapple and / a bottle body 1 in deformation of the piece 13 of a beam] 11 being weakened).

[0025] The shape of a rod of the couple which vertical both ends were incurvated back and has been arranged at parallel grapples, between the vertical edges of the piece 13 of a beam, the handle 11 (refer to drawing 4 thru/or drawing 8) which is the injection-molded product of comparatively hard synthetic resin ***** the plate-like handle plate 12 in the shape of erection, and is constituted, and many crevices of a sake without meat are fabricated by the handle plate 12.

[0026] The apical surface 14 of the piece 13 of a beam with both groups which contacts a part for the center section at the base 4 of a crevice In the center section which is carrying out the shape of a straight-line flat side as well as a part for the center section at the base 4 of a crevice, and met in the height direction of this apical surface 14 To a part for the center section by the side of the head of the side face where it protruded and the piece 13 of a beam with both groups countered, the fitting protruding piece 16 which formed at the head the head splenium 17 which bulged in the upper and lower sides and the inside. The protruding line-like engagement protruding piece 15 is protruded, it has the fitting protruding piece 16 which has this apical surface 14, the engagement protruding piece 15, and the head splenium 17, and grapples, and by the piece 13 of a beam, a handle 11 side grapples and the part is constituted.

[0027] The assembly to the bottle body 1 of a handle 11 is attained by a handle's 11 grappling and carrying out biaxial drawing blow molding of the bottle body 1 by making a part into insertion material. It is fabricated with the gestalt in which a handle 11 clinches and the fitting hole 8 which grapples and has a part 6, i.e., a swelling piece, the engagement slot 7, and the fitting edge 9 and the support projected part 10 of a bottle body 1 hold a part without an abbreviation clearance by the biaxial drawing blow molding of the bottle body 1 which the handle 11 grappled and made the part insertion material as shown in drawing 3.

[0028] So that clearly from drawing 3 the support projected part 10 of a bottle body 1 In the condition of having made it engaging with the engagement slot 7 and of grappling and holding the piece 13 of a beam between the vertical projected parts 5, the engagement protruding piece 15 since it grapples and the lateral surface of the piece 13 of a beam is contacted -- the deformation to the outside of the piece 13 of a beam with both groups -- the handle [as opposed to / a variation rate will be prevented, and the bottle body 1 by fitting to the fitting hole 8 of the fitting protruding piece 16 grapples, and / a part] 11 -- grappling -- a part -- grappling -- weakening -- a prevention operation is reinforced powerfully.

[0029] The fitting edge 9 of the fitting hole 8 of a bottle body 1 fits into the fitting slot 18 formed in fitting protruding piece 16 part of a handle 11, and prevents powerfully the ejection from the fitting hole 8 of the fitting protruding piece 16, and the engagement protruding piece 15 of a handle 11 engages for it and has it in the engagement slot 7 of a bottle body 1, and it carries out achievement maintenance with [to a bottle body 1 / of a handle 11 / powerful] a group.

[0030] The apical surface 14 of the piece 13 of a beam with both groups of a handle 11 Since a part for the same center section is made into the straight-line-like flat side and the fitting protruding piece 16 is located in the center section of this apical surface 14 if the engagement protruding piece 15 is formed At the time of handling of a bottle with a handle 11, to the external force which acts, generating of local deformation of crevice base 4 part which formed the fitting hole 8 is prevented, and firmly, it will be stabilized and will maintain with [to the fitting hole 8 of the fitting protruding piece 16] a fitting group.

[0031] By forming a notch 19 in a part for the head surface part of the engagement protruding piece 15 which counters the head splenium 17, as shown in drawing 7 and drawing 8 By enlarging the flute width of fitting slot 18 part formed between this head splenium 17 and the engagement protruding piece 15, the moldability of drawing shaping of fitting edge 9 part which fits into this fitting slot 18 part can be raised at the time of the biaxial drawing blow molding which made the handle 11 of a bottle body 1 insertion material.

[0032] Moreover, since it does not need to take a vertical position into consideration only in consideration of a handle 11 order position in case it is attached to the biaxial drawing blow molding metal mold equipment of a bottle body 1 by making this handle 11 into insertion material, since the handle 11 is the upper and lower sides and right and left with field symmetry structure so that clearly from a graphic display configuration, handling of the handle 11 at the time of insert molding becomes easy, and automation of bottle shaping becomes easy to attain it.

[0033]

[Effect of the Invention] Since this invention has the above-mentioned composition, it does so the effectiveness taken below. By fitting to the fitting hole of a bottle body in which the ejection of a fitting protruding piece on a knob is impossible, and engagement of an engagement protruding piece on a knob to the engagement slot on the bottle body, while attaining with [to a bottle body / of a handle] a group Fitting of a fitting hole and a fitting protruding piece maintains stably engagement to an engagement slot and an engagement protruding piece. Reversely the engagement to an engagement slot and an engagement protruding piece Since fitting of a fitting hole and a fitting protruding piece is maintained stably, very safely, it is stabilized and handling of the bottle which should be powerful, should be stabilized, has with [to a bottle body / of a handle] a group, and has a handle can attain.

[0034] A bottle body side do not need to grapple and it be necessary not to give self-configuration maintenance capacity mighty to that handle simple substance that be an injection-molded product since it grapple and the force be make to act in a part and the direction which prevent the bending deformation to the direction where a handle side grapple and a part make it weaken with a group mutually , and a handle can fabricate to closing in comparatively and , for this reason , the amount of the expensive synthetic resin ingredient require for have and fabricate one handle can lessen .

[0035] since it is attained the biaxial drawing blow molding of a bottle body, simultaneously with [to a bottle body / of a handle] a group when a handle grapples and a part is made into insertion material, for assembly with the bottle body and handle which are another object moldings, a bottle body grapples, and there is no possibility that **-permanent deformation, such as buckling distortion, and unjust deformation may occur in a part, it has in it, and good assembly can be attained by the insurance of the handle to a bottle body.

[0036] A part can attain the powerful and stabilized assembly which a bottle body grapples and a part and a handle grapple, and can attach a part without an abbreviation clearance, has it, and is not with [of the handle to a bottle body] backlash since a handle grapples and a part is fabricated as a part of die side by a bottle body grappling, when a handle grapples and a part is made into insertion material.

[Translation done.]

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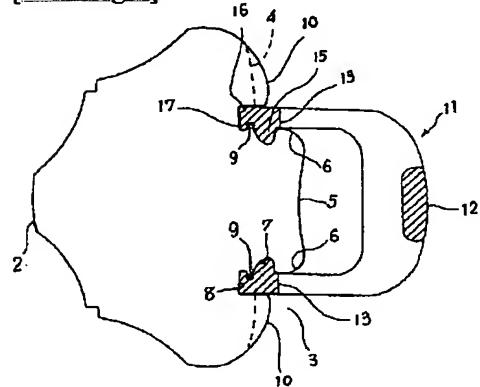
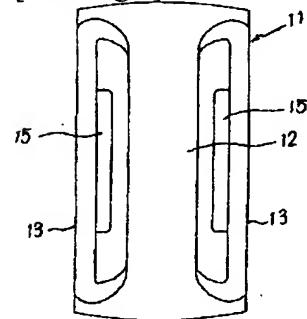
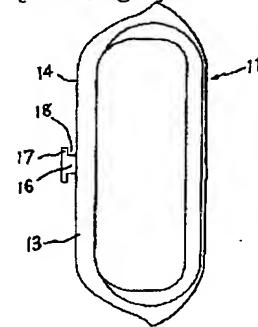
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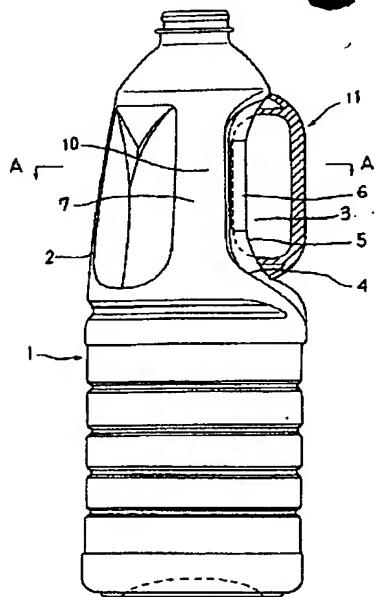
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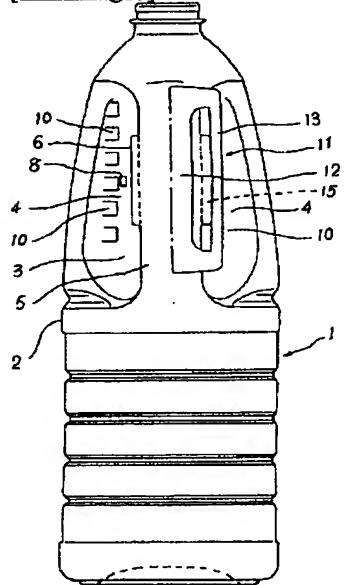
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DRAWINGS

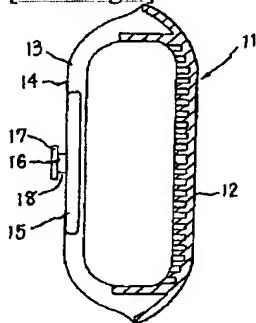
[Drawing 3]**[Drawing 4]****[Drawing 5]****[Drawing 1]**



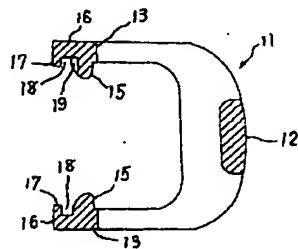
[Drawing 2]



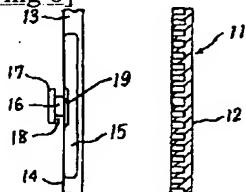
[Drawing 6]



[Drawing 7]



[Drawing 8]



1 : 本体 2 : 脊部 3 : 凹部 4 : 凹部底面
5 : 縫合部 6 : 膨出片 7 : 係合溝 8 : 嵌合穴部
9 : 嵌合縫部 10 : 支え突部 11 : 把手
12 : 把手板 13 : 裁付き梁片 14 : 先端面
15 : 係合突片 16 : 係合突片 17 : 先端膨大部
18 : 嵌合溝 19 : 切欠き部

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CORRECTION OR AMENDMENT

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[Category partition] The 4th partition of the 2nd category

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[Procedure amendment]

[Filing Date] October 9, Heisei 10

[Procedure amendment 1]

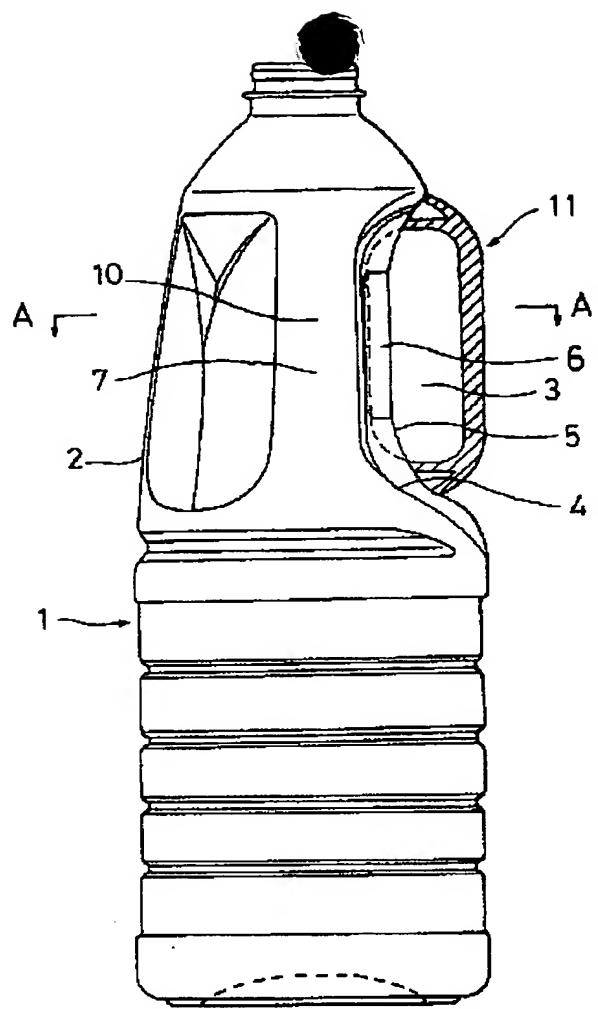
[Document to be Amended] DRAWINGS

[Item(s) to be Amended] Complete diagram

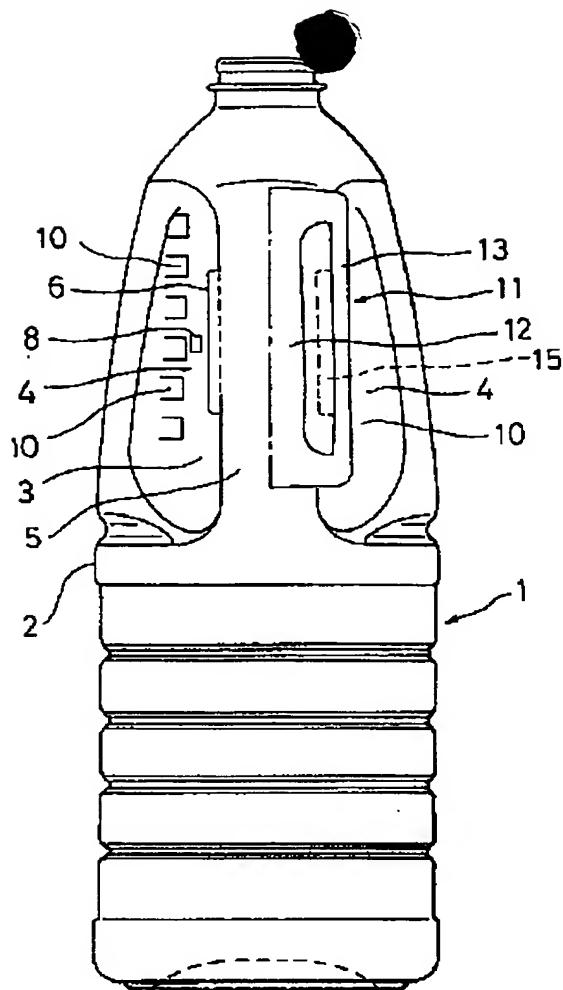
[Method of Amendment] Modification

[Proposed Amendment]

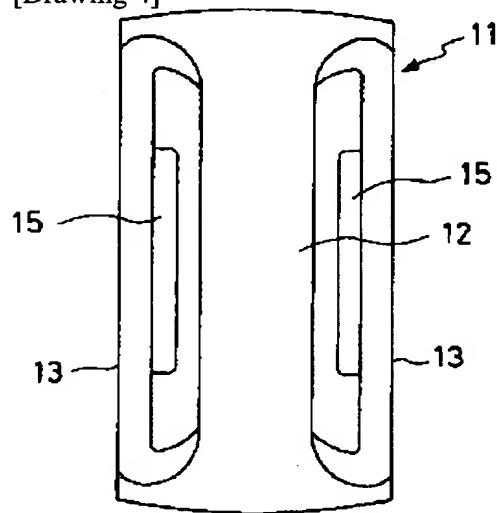
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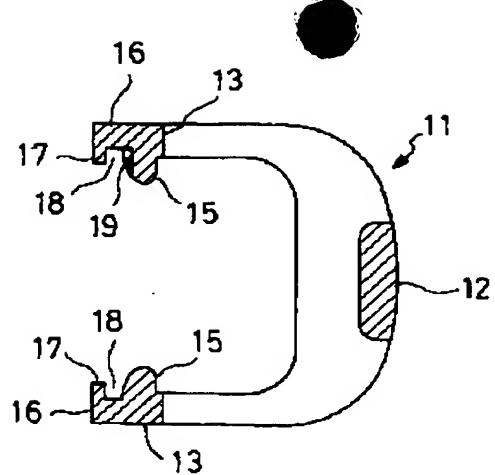
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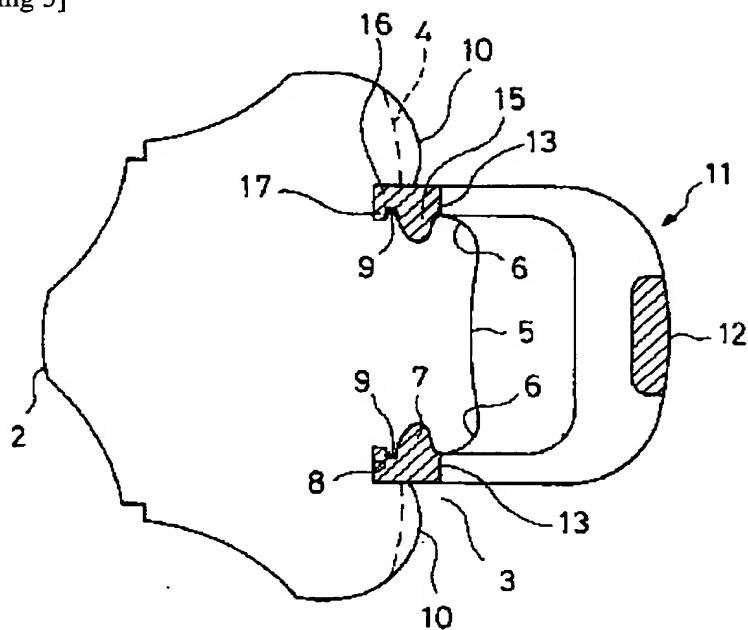
[Drawing 4]



[Drawing 7]

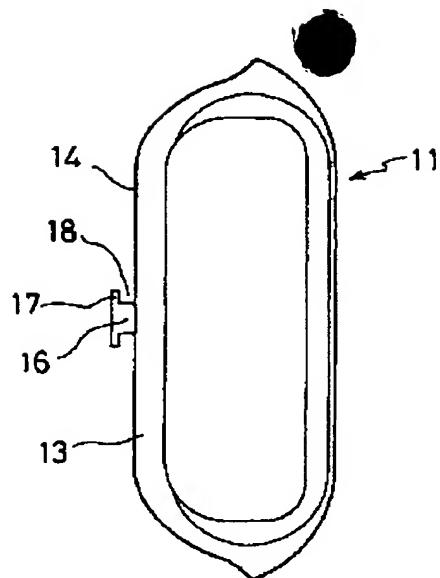


[Drawing 3]

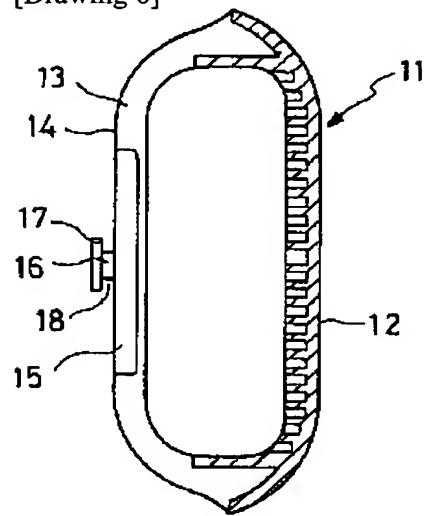


1 : 場本体	2 : 腕部	3 : 凹部
4 : 凹部底面	5 : 縦突部	6 : 膨出片
7 : 係合溝	8 : 嵌合穴部	9 : 嵌合縁部
10 : 支え突部	11 : 把手	12 : 把手板
13 : 組付け梁片	14 : 先端面	15 : 係合突片
16 : 嵌合突片	17 : 先端膨大部	18 : 嵌合溝
19 : 切欠き部		

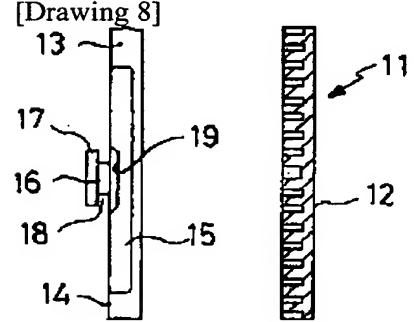
[Drawing 5]



[Drawing 6]



[Drawing 8]



[Translation done.]

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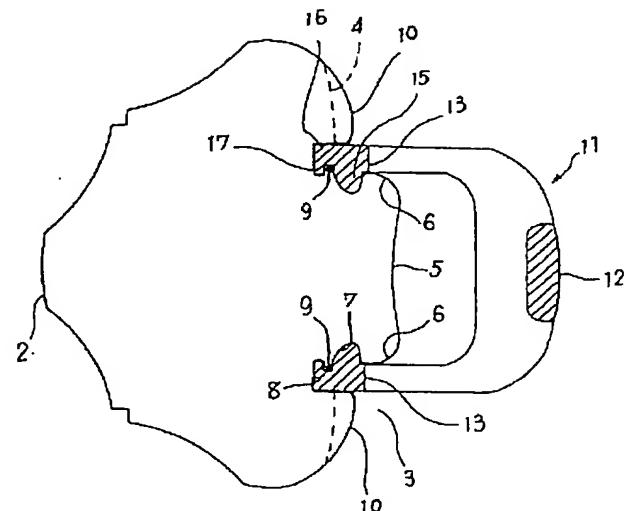
(74) 代理人 弁理士 渡辺 一豊

(54) 【発明の名称】把手付き合成樹脂製壇体とその成形方法

(57) 【要約】

【目的】 壇本体側の組付き部分の撓み変形の発生を防
止し、もって壇本体に対する把手の組付きを安定して強
固なものとすることにある。

【構成】 両側に縦溝状の係合溝7を設けた縦突部5
と、開口部に嵌合縁部9を設けた嵌合穴部8とを有する
壇本体1と、縦突部5を両側から抱きかかえて係合突片
15を係合溝7に係合させる一対の組付き梁片13の先
端面14に、基端部の嵌合溝18に嵌合縁部9を嵌合さ
せて嵌合穴部8に抜け出し不能に嵌合する嵌合突片16
を突設した把手11とから成り、係合溝8と係合突片1
5との係合、および嵌合穴部8と嵌合突片16との嵌合
とにより、強固で安定した組付きを達成維持する。



【特許請求の範囲】

【請求項 1】 胴部(2) 後部に陥没設された凹部(3) の凹部底面(4) に縦突部(5) を突出設し、該縦突部(5) の両側面に縦条状の膨出片(6) を突設して、該膨出片(6) と前記凹部底面(4) との間に係合溝(7) を形成し、前記縦突部(5) 側近の前記凹部底面(4) 部分に、開口部に嵌合縁部(9) を設けて開口面積を小さくしたメクラ穴状の嵌合穴部(8) を形成した 2 軸延伸ブロー成形された壙本体(1) と、前記凹部底面(4) に当接する先端面(14) を有して平行に配置された一対の組付き梁片(13) の上下端間に把手板(12) を一体設し、前記両組付き梁片(13) の対向面に前記係合溝(7) に係合する係合突片(15) を突設し、前記先端面(14) に前記嵌合穴部(8) に嵌合する先端に先端膨大部(17) を有する嵌合突片(15) を突設した把手(11) と、から成る把手付き合成樹脂製壙体。

【請求項 2】 凹部底面(4) に、組付いた把手(11) の両組付き梁片(13) の外側面に当接する支え突部(10) を突設した請求項 1 に記載の把手付き合成樹脂製壙体。

【請求項 3】 先端膨大部(17) を、先端面(14) および係合突片(15) との間に嵌合溝(18) を形成する構成とした請求項 1 または 2 に記載の把手付き合成樹脂製壙体。

【請求項 4】 先端膨大部(17) に対向する係合突片(15) 部分に、該係合突片(15) と先端膨大部(17) との間に形成される嵌合溝(18) 部分の溝幅を大きくする切欠き部(19) を形成した請求項 1 または 2 または 3 に記載の把手付き合成樹脂製壙体。

【請求項 5】 組付き梁片(13) の先端面(14) の両端部を除く略全体を、直線平坦面状とした請求項 1 または 2 または 3 または 4 に記載の把手付き合成樹脂製壙体。

【請求項 6】 把手(11) を、上下および左右に面对称構造とした請求項 1 または 2 または 3 または 4 または 5 に記載の把手付き合成樹脂製壙体。

【請求項 7】 胴部(2) 後部に陥没設された凹部(3) の凹部底面(4) に縦突部(5) を突出設し、該縦突部(5) の両側面に縦条状の膨出片(6) を突設して、該膨出片(6) と前記凹部底面(4) との間に係合溝(7) を形成し、前記縦突部(5) 側近の前記凹部底面(4) 部分に、開口部に嵌合縁部(9) を設けて開口面積を小さくしたメクラ穴状の嵌合穴部(8) を形成した壙本体(1) に、前記凹部底面(4) に当接する先端面(14) を有して平行に配置された一対の組付き梁片(13) の上下端間に把手板(12) を一体設し、前記両組付き梁片(13) の対向面に前記係合溝(7) に係合する係合突片(15) を突設し、前記先端面(14) に前記嵌合穴部(8) に嵌合する先端に先端膨大部(17) を有する嵌合突片(15) を突設した把手(11) を、不動に組付けた把手付き壙体の成形方法であって、前記組付き梁片(13) と、前記先端面(14) と、前記係合突片(15) と、そして前記先端膨大部(17) を有する嵌合突片(16) とをインサート材として、前記壙本体(1) を 2 軸延伸ブロー成形して、前記膨出片(6) および嵌合縁部(9) を有する嵌合穴部

(8) を成形する把手付き合成樹脂製壙体の成形方法。

【発明の詳細な説明】

【0001】

【産業上の利用分野】本発明は、2 軸延伸ブロー成形された大型な把手付き合成樹脂製壙体、特に別体に成形される把手と壙本体とを強固に組付けた把手付き合成樹脂製壙体とその成形方法に関するものである。

【0002】

【従来の技術】別体に成形された壙本体と把手とを組付け構成される大型な把手付き合成樹脂製壙体の代表的なものとして、実開昭 63-147429 号公報に示された壙体がある。

【0003】この従来技術の壙体は、壙本体の胴部の後部に、上下に弧状をなす凹部を形成し、この凹部中央に嵌合突部を弧状に縦設し、この嵌合突部の左右両側面に両端を閉塞して弧状に長溝を縦設し、弧状をなす前方枠板部の上下端部間に把手を架設した把手としての枠体を構成し、この枠体の前方枠板部の左右両側に係合突条を付設し、枠体を凹部後方から強制的に押し付けることにより、長溝形成壁部に対する係合突条の強制的な乗り越えを達成して、壙本体に対して把手としての枠体を離脱不能に組付けて構成されている。

【0004】

【発明が解決しようとする課題】上記した従来技術は、壙本体に対する把手の強固な組付きを達成できるのであるが、壙本体に対する把手の組付けに強力な作業力を要するため、壙本体に対する把手の組付けに専用の設備を必要とし、このため製造単価が高くなると云う問題があった。

【0005】また、壙本体は、2 軸延伸ブロー成形品であるので、その壁厚が薄く、このため壙本体に把手を組付けるために強力な作業力が作用すると、この作用力により壙本体に座屈変形等の不正変形が発生する恐れがあり、把手の取付け時に不良品を生じる場合があると云う問題があった。

【0006】そして、壙本体は、2 軸延伸ブロー成形品であるので、その壁厚が薄く、このため把手との係合組付き部分に、荷重による弹性的な撓み変形が発生し易く、この撓み変形により壙本体と把手との係合組付き力が弱化して、把手の壙本体に対する組付きが外れると云う問題があった。

【0007】さらに、壙本体に対する把手の組付き状態の保持は、長溝に対する係合突条の嵌合だけにより達成され、この長溝に対する係合突条の嵌合は、係合突条が長溝形成壁部を強制的に乗り越えて達成されるものであるので、壙本体に対する把手の組付きにガタ付きが生じ易く、このため把手を持っての壙体の取扱いが不安定となる場合があると云う問題があった。

【0008】またさらに、壙本体と把手とは別個に成形されるものであり、かつ壙本体が 2 軸延伸ブロー成形品

であるのに対して、把手は射出成形品であるので、相互の係合部分の成形寸法精度に大きな差が生じ、このため壇本体と把手との係合組付きをガタ付きのないものとすることが難しいと共に、2軸延伸ブロー成形品である壇本体側の係合部分の突出程度を鋭くすることができないので、壇本体に対する把手の係合組付きが、必ずしも安定して強力に達成できるとは限らないと云う問題があつた。

【0009】そこで、本発明は、上記した従来技術における問題点を解消すべく発明されたもので、荷重が作用した際の把手に対する壇本体側の係合組付き部分の撓み変形変位の発生を無くすと共に、壇本体に対する把手の係合組付き力を強固にすることを技術的課題とし、もつて壇本体に対する把手の組付きを、安定して強固なものとすることを目的とする。

【0010】

【課題を解決するための手段】上記技術的課題を解決する本発明の手段は、胴部後部に陥没設された凹部の凹部底面に縦突部を突出設し、この縦突部の両側面に縦条状の膨出片を突設して、膨出片と凹部底面との間に係合溝を形成し、縦突部側近の凹部底面部分に、開口部に嵌合縁部を設けて開口面積を小さくしたメクラ穴状の嵌合穴部を形成した2軸延伸ブロー成形された壇本体を有すること、壇本体の凹部底面に当接する先端面を有して平行に配置された一対の組付き梁片の上下端間に把手板を一体設し、両組付き梁片の対向面に壇本体の係合溝に係合する係合突片を突設し、先端面に壇本体の嵌合穴部に嵌合する先端に先端膨大部を有する嵌合突片を突設した把手(11)を有すること、にある。

【0011】壇本体の凹部底面に、組付いた把手の両組付き梁片の外側面に当接する支え突部を突設するのが有効である。

【0012】把手の嵌合突片における先端膨大部を、把手の先端面および係合突片との間に嵌合溝を形成する構成とするのが良く、またこの先端膨大部に対向する係合突片部分に、この係合突片と先端膨大部との間に形成される嵌合溝部分の溝幅を大きくする切欠き部を形成するのが良い。

【0013】把手の組付き梁片の先端面の両端部を除く略全体を、直線平坦面状とするのが有効であり、また把手を、上下および左右に面对称構造とするのが有利である。

【0014】上記技術的課題を解決する本発明方法の手段は、胴部後部に陥没設された凹部の凹部底面に縦突部を突出設し、この縦突部の両側面に縦条状の膨出片を突設して、膨出片と凹部底面との間に係合溝を形成し、縦突部側近の凹部底面部分に、開口部に嵌合縁部を設けて開口面積を小さくしたメクラ穴状の嵌合穴部を形成した壇本体に、壇本体の凹部底面に当接する先端面を有して平行に配置された一対の組付き梁片の上下端間に把手板

を一体設し、両組付き梁片の対向面に壇本体の係合溝に係合する係合突片を突設し、先端面に壇本体の嵌合穴部に嵌合する先端に先端膨大部を有する嵌合突片を突設した把手を、不動に組付けた把手付き壇体の成形方法であること、把手の組付き梁片と、この組付き梁片の先端面と、組付き梁片に突設された係合突片と、そして先端面に突設されて先端膨大部を有する嵌合突片とをインサート材として、壇本体を2軸延伸ブロー成形して、壇本体の膨出片および嵌合縁部を有する嵌合穴部を成形すること、にある。

【0015】

【作用】壇本体に対する把手の組付きは、壇本体の凹部の凹部底面に設けた縦突部を、把手の一対の組付き梁片が、その係合突片を、壇本体の膨出片に係止させた状態で係合溝に係合させて、両側から抱きかかえると共に、壇本体の嵌合穴部に把手の嵌合突片を嵌合させることにより達成維持される。

【0016】この把手が壇本体に組付いた状態において、壇本体に対する把手の離脱不能な組付きは、把手の

係合突片の、壇本体の係合溝に対する係合、すなわち壇本体の膨出片に対する係止と、把手の嵌合突片の、壇本体の嵌合穴部に対する嵌合とにより達成し、嵌合突片の嵌合穴部に対する嵌合は、係合突片の係合溝に対する係合を維持すると共に、係合突片が係合溝に係合した状態で、壇本体に対して把手がズレ変位するのを防止する。

【0017】すなわち、把手側の嵌合突片が壇本体側の嵌合穴部に嵌合することにより、壇本体に対する把手の係合組付きを弱化させる壇本体側の撓み変形、具体的には、縦突部を設けた凹部底面の、縦突部の横幅を狭める

方向への撓み変形の発生を、把手の自己形状保持能力により、し難くし、係合突片と係合溝との係合を安定的に維持し、また同じく、壇本体に対する把手の係合組付きを弱化させる把手の両組付き梁片の撓み変形、具体的には、両組付き梁片がその相互間隔を拡げる方向への撓み変形の発生を阻止することにより、係合突片と係合溝との係合を安定的に維持し、さらに係合溝に係合突片が係合した状態での、壇本体に対する把手の溝方向に沿ったズレ変位の発生を強力に阻止する。

【0018】また、壇本体の嵌合穴部に嵌合する把手の

嵌合突片は、その突出先端に先端膨大部を有しているので、嵌合穴部に嵌合した状態で、先端膨大部と先端面および係合突片との間に形成される嵌合溝に、嵌合穴部の嵌合縁部を嵌合させることになり、このため嵌合穴部に対して抜け出し不能に嵌合することになる。この嵌合突片の嵌合穴部に対する抜け出し不能な嵌合組付きは、係合溝に対する係合突片の一定長さ範囲にわたる係合により安定的に維持されるため、嵌合穴部の周囲の胴部部分が不正変形して、嵌合突片が嵌合穴部から抜け出ることはない。

【0019】把手の組付き梁片と先端面と係合突片とそ

して先端膨大部を有する嵌合突片とをインサート材として壇本体を2軸延伸ブロー成形することにより、壇本体の把手との組付き部分である膨出片、係合溝、嵌合穴部、そして嵌合縁部が、把手の両組付き梁片、先端面、係合突片、先端に先端膨大部を有する嵌合突片、そして嵌合溝に、略隙間なく組付いて成形されることになる。

【0020】この壇本体の組付き部分の把手に対する組付きは、壇本体の組付き部分の延伸成形により達成されるので、壇本体の組付き部分に局部的な延伸変形が生じるもの、剛的な無理な弾性変形が生じることがなく、このため把手の壇本体に対する組付け時に、2軸延伸ブロー成形品である壇本体に、座屈変形等の機械的な不正変形を生じさせることがない。

【0021】また、壇本体の組付き部分は、壇本体の2軸延伸ブロー成形に伴う延伸変形により、把手に対する組付きが達成されるので、成形後における把手の組付き、および2軸延伸ブロー成形金型装置からの離型を考慮することなく、その組付き部分の突出程度を、充分に強力な組付き力を発揮できる程度に設定することが可能である。

【0022】

【実施例】以下、本発明の実施例を、図面を参照しながら説明する。大型(2.5~4.0リットル)な2軸延伸ブロー成形された合成樹脂製壇体である壇本体1は、その胴部2の上半部分の後部に凹部3を陥没形成し、この凹部3の上下両端部を除く中央部分を直立した平坦面として凹部底面4の中央に、上下方向に沿って比較的幅広な突条状の縦突部5を、略一定した高さで、凹部3の全高さ範囲にわたって膨出状に突設して構成されている。

【0023】縦突部5の高さ方向に沿った中央部分の両側面突出端側には、縦突条状の膨出片6が突設されており、この膨出片6の突設により、膨出片6と凹部底面4との間に係合溝7を形成し、また膨出片6の高さ方向に沿った中央部側近の凹部底面4部分には、開口縁部に嵌合縁部9を設けて開口口径を小さくしたメクラ穴状の嵌合穴部8を形成し、さらに凹部底面4の嵌合穴部8よりも外側の側近に、組付いた把手11の両組付き梁片13の外側面に当接する支え突部10を突設し、膨出片6を含んだ係合溝7と嵌合縁部9を有する嵌合穴部8と支え突部10とにより、壇本体1の把手11に対する組付き部分を構成している。

【0024】支え突部10は、壇本体1に組付いた把手11の両組付き梁片13の外側面に当接すれば良いものであって、その構造は、単純に連続して縦突条状に膨出突出(図1参照)したものでも、複数の突片を間隔をあけて縦にならべた(図2の左半分参照)ものであっても良く、壇本体1に組付いた把手11の両組付き梁片13の外側面に当接して、この両組付き梁片13が、互いの間隔を拡げる方向に変形(この組付き梁片13の変形

は、壇本体1に対する把手11の係合組付き力を弱化させる)するのを阻止するように機能する。

【0025】比較的硬質な合成樹脂の射出成形品である把手11(図4乃至図8参照)は、上下両端部を後方に湾曲させて平行に配置された一対の棒状の組付き梁片13の上下端間に、平板状の把手板12を架設状に一体設して構成され、把手板12には、肉抜きのための多数の凹部が成形されている。

【0026】凹部底面4の中央部分に当接する両組付き梁片13の先端面14は、凹部底面4の中央部分と同じく直線平坦面状をしており、この先端面14の高さ方向に沿った中央部に、先端に上下および内側に膨出した先端膨大部17を設けた嵌合突片16を突設し、両組付き梁片13の対向した側面の先端側の中央部分には、突条状の係合突片15を突設し、この先端面14、係合突片15そして先端膨大部17を有する嵌合突片16を有する組付き梁片13により、把手11側の組付き部分を構成している。

【0027】把手11の壇本体1に対する組付けは、把手11の組付き部分をインサート材として、壇本体1を2軸延伸ブロー成形することにより達成される。把手11の組付き部分をインサート材とした壇本体1の2軸延伸ブロー成形により、図3に示すように、壇本体1の組付き部分、すなわち膨出片6、係合溝7、嵌合縁部9を有する嵌合穴部8、そして支え突部10が、把手11の組付き部分を略隙間なく抱える形態で成形される。

【0028】図3から明らかなように、壇本体1の支え突部10は、係合突片15を係合溝7に係合させた組付き梁片13を縦突部5との間で抱え込む状態で、組付き梁片13の外側面に当接するので、両組付き梁片13の外側への変形変位を阻止することになり、嵌合突片16の嵌合穴部8への嵌合による、壇本体1の組付き部分に対する把手11の組付き部分の組付き弱化防止作用を、強力に補強する。

【0029】壇本体1の嵌合穴部8の嵌合縁部9は、把手11の嵌合突片16部分に形成される嵌合溝18に嵌合して、嵌合突片16の嵌合穴部8からの抜け出しを強力に阻止し、また把手11の係合突片15が壇本体1の係合溝7に係合し、もって壇本体1に対する把手11の強力な組付きを達成維持する。

【0030】把手11の両組付き梁片13の先端面14は、係合突片15の設けられていると同じ中央部分を直線状平坦面としており、かつ嵌合突片16がこの先端面14の中央部に位置しているので、把手11を持っての壇体の取扱い時に、作用する外力に対して、嵌合穴部8を設けた凹部底面4部分の局部的な変形の発生を阻止し、嵌合突片16の嵌合穴部8に対する嵌合組付きを強固にかつ安定して維持することになる。

【0031】図7および図8に示すように、先端膨大部17に対向する係合突片15の先端面部分に切欠き部1

9を設けることにより、この先端膨大部17と係合突片15との間に形成される嵌合溝18部分の溝幅を大きくすることにより、壙本体1の把手11をインサート材とした2軸延伸ブロー成形時に、この嵌合溝18部分に嵌合する嵌合縁部9部分の延伸成形の成形性を高めることができる。

【0032】また、把手11は、図示形状から明らかなように、上下および左右に面对称構造となっているので、この把手11をインサート材として壙本体1の2軸延伸ブロー成形金型装置に組付ける際に、把手11の前後姿勢だけを考慮し、上下姿勢を考慮する必要がないので、インサート成形時における把手11の取扱いが容易となり、壙体成形の自動化が達成し易くなる。

【0033】

【発明の効果】本発明は、上記した構成となっているので、以下に示す効果を奏する。壙本体の嵌合穴部に対する把手の嵌合突片の抜け出し不能な嵌合と、壙本体の係合溝に対する把手の係合突片の係合により、壙本体に対する把手の組付けを達成すると共に、嵌合穴部と嵌合突片との嵌合は、係合溝と係合突片との係合を安定的に維持し、反対に係合溝と係合突片との係合は、嵌合穴部と嵌合突片との嵌合を安定的に維持するので、壙本体に対する把手の組付けを強力で安定したものとすることができ、もって把手を持っての壙体の取扱いが極めて安全にかつ安定して達成できる。

【0034】壙本体側の組付け部分と、把手側の組付け部分とが、相互に組付けを弱化させる方向への撓み変形を阻止する方向にその組付け力を作用させて、射出成形品である把手単体に強大な自己形状保持能力を与える必要がなく、このため把手を比較的肉薄に成形することができ、もって一つの把手を成形するに要する高価な合成樹脂材料の量を少なくすることができる。

【0035】把手の組付け部分をインサート材とした場合には、壙本体の2軸延伸ブロー成形と同時に、壙本体に対する把手の組付けが達成されるので、別体成形物で

ある壙本体と把手との組付けのために、壙本体の組付け部分に座屈変形等の剛的な永久変形とか不正変形の発生する恐れが全くなく、もって壙本体に対する把手の安全で良好な組付けを達成できる。

【0036】把手の組付け部分をインサート材とした場合には、壙本体の組付け部分が把手の組付け部分を成形面の一部として成形されるので、壙本体の組付け部分と把手の組付け部分とを略隙間なく組付けることができ、もって壙本体に対する把手のガタ付きのない強力で安定した組付けを達成できる。

【図面の簡単な説明】

【図1】本発明の一実施例を示す、把手を半縦断した壙体の全体側面図。

【図2】図1に示した実施例の、把手の左半分を切除した壙体の全体背面図。

【図3】図1中、A-A線に沿って切断矢視した拡大平面図。

【図4】図1に示した実施例の把手の全体背面図。

【図5】図4に示した把手の全体側面図。

【図6】図4に示した把手の全体縦断側面図。

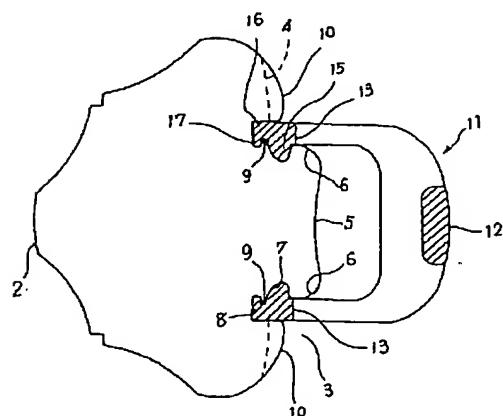
【図7】上半分を他の実施例とした図4に示した把手の全体平面図。

【図8】図7の上半分に示した他の実施例の部分側面図。

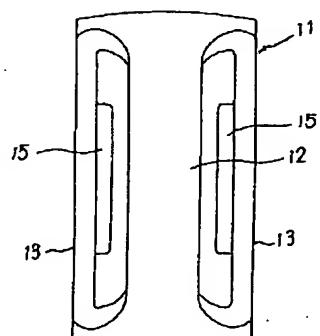
【符号の説明】

1	；	壙本体	2	；	胴部
3	；	凹部	4	；	凹部底面
5	；	縦突部	6	；	膨出片
7	；	係合溝	8	；	嵌合穴部
9	；	嵌合縁部	10	；	支え突部
11	；	把手	12	；	把手板
13	；	組付け梁片	14	；	先端面
15	；	係合突片	16	；	嵌合突片
17	；	先端膨大部	18	；	嵌合溝
19	；	切欠き部			

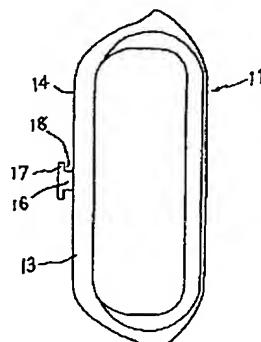
【図3】



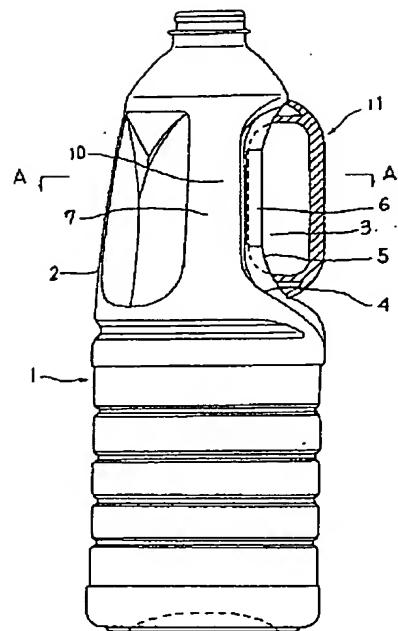
【図4】



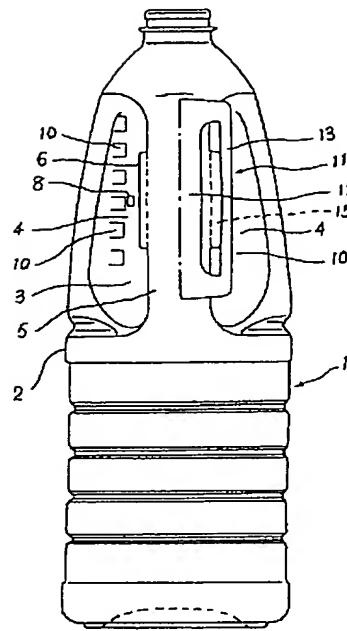
【図5】



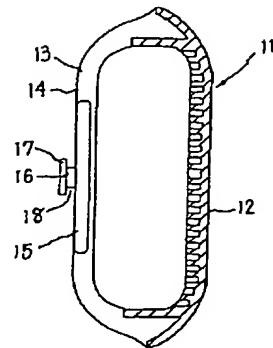
【図1】



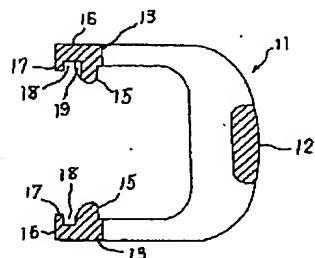
【図2】



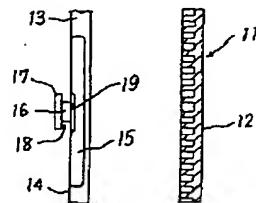
【図6】



【図7】



【図8】



1 ; 基本体 2 ; 頸部 3 ; 凹部 4 ; 凹部底面
 5 ; 縦突部 6 ; 膨出片 7 ; 係合溝 8 ; 嵌合穴部
 9 ; 嵌合縁部 10 ; 支え突部 11 ; ハンドル
 12 ; ハンドル板 13 ; 組付き梁片 14 ; 先端面
 15 ; 係合突片 16 ; 係合突片 17 ; 先端部大部
 18 ; 係合溝 19 ; 切欠き部

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